



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

AN ESSAY

73

ON

Grades, Drainage, and Extension

OF THE

PUBLIC GROUNDS IN THE CITY OF WASHINGTON

AS A

System of General Improvement.

---

WASHINGTON:  
HENRY POLKINHORN, PRINTER.  
1858.

**TO THE HONORABLE**  
**MEMBERS OF THE SENATE AND HOUSE OF REPRESENTATIVES**

**THE FOLLOWING ESSAY IS RESPECTFULLY INSCRIBED,**

**BY THE AUTHOR.**

# AN ESSAY

ON THE

## EXTENSION OF THE PUBLIC GROUNDS IN THE CITY OF WASHINGTON, AND IMPROVEMENT OF THE SAME.

---

The objects to be attained are manifold and various—some being necessary to health, others of national import; and all blending utility and beauty harmoniously together, as a *system* of improvement commensurate with the Metropolis of a great Nation.

The magnitude and magnificence of the public buildings already finished and in progress, give a foretaste of their ultimate grandeur, and of the requisite surrounding embellishments which, depending chiefly on trees and shrubs in variety, will require years of growth to perfect; whereas, though edifices necessarily precede outside embellishments, still, the building when finished has reached its zenith alike for beauty as for use. It ever remains the same except in its progress of decay, and all its beauty depends on *sight* alone, while well planted ornamental grounds arrive at new beauties at every stage of growth to the mature state, with powers of rejuvenescence, outlasting a long succession of edifices, yet ever varying, ever changing, ever beautiful, glorious to behold in the varied tints of their gorgeous drapery, perfuming the air from the odors of a thousand flowers, while the feathered songsters secure in these charming retreats

“ . . . for their quiet nests and plenteous food  
Pay with their grateful voice.”

In the first place let us consider the great *national* objects of *utility* to be introduced into these improvements before we treat of their extent, localities, and connections one with another. They consist of an *arboretum Americanum* and *national botanic and zoological gardens*. Their utility will hardly be doubted at this enlightened period of the world, yet it may be useful to point out their leading features and characteristics, so that their true extent and importance in a country so vast in territory and fertile in production shall be correctly appreciated. And, first, of the

### ARBORETUM.

It should be composed exclusively of the trees and shrubs of the American Continent. The *sylva* of this vast continent embraces tribes and families so numerous, of climates and soils so various, that the selection of ground for such a collection should present the greatest possible variety of surface and aspect, with a palm house and other conservatories superadded. These families, on surfaces suited to them, will admit of much perspective display by artistic grouping, &c., &c., and all should be classified and labeled, so that the botanic and common names, with their

331600

classes, orders, &c., may be read at a glance of the eye. The labels may consist of cast iron stakes placed by the object named upon them, so as to facilitate a peripatetic student.

#### THE BOTANIC GARDEN

I would call *national*, because the collection should be made from all parts of the world, comprising specimens in every class, order, genus, and species treated of in botany, not included in the *arboretum*, which, as will appear in the sequel, I would have joined together, as possessing many requisites in common, and designed for instruction in the same sciences.

The *first* object of a botanic garden is to exhibit collections of plants for the improvement of botanical science; *secondly*, to display living specimens useful in agriculture, horticulture, and the arts; and *thirdly*, the acclimatizing of exotics for dissemination over the country.

Some of the most important superstructures of a botanic garden consist of a curator's house, containing an office, a library, lecture room, seed room, and herbarium, or *hortus siccus*. Near to this house should be a range of *green* and *hot* houses, with accommodations for attendants and fuel; and to these, again, a range of *forcing pits* and *frames*, with a compost yard convenient. There should be, also, many other fixtures and compartments, such as an *aquarium*, with bog, pond, spring and salt water cistern, for *marine algæ*, a rock work, with pendent walls, tunnels, vaults, and caves, open in different degrees and directions, for other of the *cryptogamiæ*; a *gramineum* for the grasses, and other compartments for medical and poisonous plants and for florists' flowers; others, again, for shrubs and plants belonging to agriculture, horticulture, dyeing, &c., &c., &c., with sub-compartments for creepers, climbers, succulents, bulbs, &c., &c., all to be scientifically arranged for the convenience of study.

#### THE ZOOLOGICAL GARDENS.

These gardens will require deep pure water for a *piscatorium* below, and an *aquatic aviary* upon its surface; shallow water with muddy bottom, where the hippopotamus, crocodile, and alligator might wallow, the tortoise and newt find hiding places, and the beaver, otter, mink, and muskrat be supplied with appropriate burrows. A park will be required for the *herbivora*, and structures such as paddocks, dens, caves, cages, and other fastnesses, necessary for confining the *carnivora*, poisonous serpents, reptiles, &c., &c., &c., with buildings for elephants, camels, monkeys, &c., &c., and accommodations for the necessary attendants.

As the leading nation of the American continent, it becomes our duty to preserve its nomads. And where can be found a place so befitting as the National Metropolis? Nor can we, in justice to mankind, or with credit to ourselves, delay the performance of the obligation, for even now many of its animals have become extinct, and only known to tradition, while others are rapidly disappearing.

But botany is suffering still more from neglect; for the most interesting of our vegetable offspring are in the hands of foster parents who have given them foreign names, and taught their "young ideas how to shoot" in a foreign soil, and to know their own native land no more forever!

And here permit me to state a fact in proof, that from the city of London you may in one day see a greater variety of the trees, shrubs, and smaller plants of America than you would meet with in travelling over the continent itself from the *arctic* to the *antarctic* circle! This disparity in the collections of the two countries, however great it may appear, can be overcome by us much easier than England made the acquisitions, by equal perseverance in research and skill in cultivation; for doubtless we have "plenty of the same sort left," and nearer at hand, if we would but hunt them up. But in one point of view we *are* injured past remedy.

It is the law of science, as of nations, that a thing discovered belongs to the discoverer, and ownership implies a right to name, while the same law forbids its being ever changed when once catalogued with a classical termination. Hence, in the ambition of discoverers to perpetuate their own names, or the names of the high dignitaries of their country, we find many of the rarest, most beautiful and valuable of American plants bearing upon their exotic life English names *latinized*, to wit: *Victoria Regina*, *Albertina*, *Wellingtonia*, *Dougllassii*, *Smithiana*, &c., &c., &c.

The English, doubtless, surpass all other people at the present time in botanical knowledge, with a Lindley, a Hooker, and a Paxton at their head. Yet the *Hortus Britannicus* is of itself exceedingly limited and meager. Whence, then, comes this pre-eminence? Is it inherent in the Anglo-Saxon blood? No more, I trow, than in their horses, kine, and sheep. The true origin of their superiority in this respect may be traced rather to their primitive wants and circumscribed dominion. This condition drove them early out upon the seas, and like the *Argonautæ* they sought the *golden fleece* in every clime, achieving every excellence, physical and mental, consequent upon an intercourse so universal.

"*Methodum intelligo naturæ convenientem quæ alienas species conjungit, nec cognatas separat.*"

A thorough knowledge of the vegetable kingdom, from the simplest formation of the *protophyta* to the gigantic *sequoia*, should be inculcated by the institutions of the country generally, whose wide domain is so richly endowed with the most perfect living specimens. And they should be collected together and so arranged that "he who runs may read," and understand what he does read. This is effected by the formation of *arboretums* and *botanic gardens*. They form a laboratory where the natural elements and the arts combine to work out some of the most abstruse problems incident to the multifarious pursuits of man. Here, the science of botany asserts her prerogatives over agriculture, horticulture, arboriculture, floriculture, and many of the fine arts, while she becomes also the *handmaid* to all. The philosopher, the historian, the geographer, and the naturalist, come here as the peripatetics of old visited the *sacred groves*, to peruse the open book of nature, the medical student to take counsel of *Hygeia*, the architect to study the ornate, the painter the beautiful, and the poet to realize the creations of imagination. Here the pious feel nearer to Deity, and the vicious awed by the consciousness of His more immediate presence.

The importance of such establishments is nowhere better understood than in Great Britain; as proof of which, I need only state the fact that since the year 1800, over sixty *arboretums* have been established in that

island alone, and nearly all connected with botanic gardens; some created by the government for public instruction, some by the nobility and gentry for more exclusive amusement, and many for commercial purposes. And all this is exclusive of parks, lawns, promenades, and pleasure gardens, designed for recreation only, and scattered most profusely over the kingdom.

A love of trees and shrubs increases with the age and population of a country; not, however, until the woodman's axe has hewn down the primeval forests of the United States do we begin to appreciate their grandeur, beauty, and worth. Trees are the grandest objects of vegetable production, and decidedly the most useful; but, taking longer to mature, and more room than smaller plants, they are in less demand, and consequently there is less incentive to their cultivation. Still, trees must ever rank next to architectural display as ornaments to a country, and particularly in populous cities, where buildings so much preponderate, and it is there we see them most admired and cherished, particularly in the capitals of nations throughout the world. For all nations, ancient and modern, irrespective of the forms of government, have ever been, still are, and ever will be, proud of their capitals, they being the centre of the political power of the nation, and of intercommunication with other nations. Whatever is deemed worthy of imitation in one, will be sure to appear sooner or later in the others, "revised, corrected, and improved" in accordance with the national taste.

And this is most apparent among the capital cities of Europe. In a display of the fine arts we may instance the Vatican. While the church exalted Rome over other capitals, all christendom struggled for supremacy in sculpture, painting, and poetry, with a view to her embellishment. This struggle elicited the greater energies in Italy, where the church was most potent, which struck out those wonderful corruscations of genius impersonated by a Ghiberti, a Michael Angelo, a Raphael, a Rossi, and a Correggio, in sculpture and painting, and by a Dante, a Petrarch, a Boccaccio, and a Tasso in poetry. But the *prestige* of Italy was overthrown by the Reformation. Since that great event, notwithstanding her advantages of climate, locality, and undisturbed government in the Papal States, competition has sprung up wherever the people eschewed the dogmas of the Church of Rome and resolved upon establishing a literature of their own. Consequently, other old capitals have been embellished and many new ones built up and adorned, while the "Eternal City" pales in the effulgence that unfettered genius has shed around them. Even little frost-bitten Sweden was destined through her Linnæus to open the book of *Flora* to Italy herself—the land of sunshine and flowers; and Stockholm now vies with many capitals of more favored climes in a display of the picturesque and beautiful. Since the advent of this remarkable man, botany has brought poetry, painting, and sculpture to its aid in ornamenting and embellishing parks, lawns, and pleasure grounds of every description in and around populous cities, making them the lungs, the great breathing zones, and out-door concert rooms, where the happy populace resort singly or in masses for exercise and recreation, while the circumambient air is rendered the purer by sustaining animal and vegetable life in *equilibrium* as it were—the one consuming *oxygen* and generating *carbonic acid*, while the other is *reversing* the process.

The cities of Paris and London have perhaps made most progress in improvements of this description. Paris has her immense Bois de Boulogne; her Boulevards; her Jardin des Plantes, du Luxembourg, and des Tuilleries; her seventy odd *places*, (called squares in English,) tastefully ornamented with trees, shrubs, flowers, fountains and statuary, among the most conspicuous of which may be mentioned the place Vendôme, with its column of *brass* twelve feet in diameter, and one hundred and fifty feet high; the place du Carousel, des Victoires, de la Concorde, du Châtelet, le Champ de Mars, large enough for the review of 150,000 men; les Champs Elysées, &c. The Seine divides the city into two unequal parts, connected by many magnificent bridges. It furnishes an ample outlet to the drainage of the city, and aids greatly the ventilation—it being on an average some 350 feet wide. The zoological department is arranged in the Jardin des Plantes, where even the monkeys enjoy a magnificent *crystal palace*, enclosing trees and shrubbery congenial to them.

But the city of London I take for our archetype—it being undoubtedly the best drained, the best ventilated, most tastefully ornamented, and healthiest city, compared with population, in the world. She is bisected by the Thames, which averages 400 yards wide and 12 feet in depth, receiving all the drainage. There are New river, and the Serpentine, which supply the lakes, reservoirs, and fountains with water. She has five large parks in her midst, named Hyde, Regent's, St. James', Green, and Victoria, containing some 2,000 acres, richly planted, and tastefully laid out for carriage, equestrian, and pedestrian exercise. Then the Royal Kensington gardens of 400 acres, still more highly ornamented, they being for pedestrians exclusively. She has besides over eighty *squares* of eight to ten acres each, ornamented with trees, shrubs, fountains, &c., &c. Those of most notoriety are Lincoln's Inn Fields, Russell, Bloomsbury, Belgrave, Berkley, Cavendish, Grosvenor, Hanover, St. James, Manchester, Portman, and Trafalgar. But *Birnam wood will come to Dunsinane*: "The cry is still, they come!" At Hampton Court there are 600 acres of park, and 50 acres of pleasure gardens; at "Richmond great park" 2,250 acres more—all now upon the confines of the city, and daily open to the whole population. Then again within seven miles of London, at Kew, is the great national botanic garden of 200 acres more, which is pronounced to be the most perfect of its kind in the world. The Zoological establishment is in the Regent's park; where is, also, a well-arranged botanic garden, supported entirely by private subscription.

With these facts before us, let us compare the condition of our own metropolis with that of our progenitors—"not that we love Cæsar less, but our *country* more," that we may see more clearly our own nakedness, and feel more effectively our own necessities, through the strongest principle of ratiocination—*contrast*. Besides, it is very extensively believed that brother Jonathan dislikes to be outdone in anything by his neighbor Mr. Bull. Geographical position, as to climate, scenery, and surrounding materials, is in our favor; but we lack a Thames and its tributaries for drainage and ventilation. We have, however, what seems to content us in their stead—a *Goose creek*, and an uncouth stinking ditch, flanked by morass and frog-pond, as tributaries, for *drainage*. As to ventilation we



suffer from excess, in the too free circulation of *malaria*. But enough! such comparisons are *odorous*, as Mrs. Malaprop would express it—too much so to *dwell* upon.

Is it not time, then, at least to *commence* such improvements? Shall the garish marble be forever reflected in the *cess-pool*, echoing back the serenade of frogs? Or will the fear of an adverse *public opinion* cause you to hesitate? If so, let me exhort you to assume the responsibilities that belong to your eminent station: Be *statesmen*. Direct your energies to advance, instead of retarding the national destiny. Be the champions of a true progress—not of that spurious party juggling—

“That palters with us in a double sense;  
That keeps the word of promise to our ear,  
And breaks it to our hope.”

In short, lead public opinion, instead of being led too much by it. Your individual intelligence gave you popularity at home; the country will confide in your united efforts to serve the general weal. And should not the present deplorable condition of public morals arouse your combined energies? The hand of sordid opulence has been sowing the land broadcast for years, with the most seductive vices, of which even this community have been reaping a too abundant harvest, of midnight orgies, and crimes of deepest dye! The outstretched arm of the law is powerless to stay the assassin's steel; while each day's events but extend the dark record! If virtue cannot be enforced upon a free people, then try persuasion. Create new schools of learning more attractive than your dingy scholastic walls, redolent of the fumes of tobacco, and only ornamented with festoons by that most ancient of architects, the *araneus*. Throw around the *alma mater* drapery more befitting her charms, and you will allure wealth to nobler aspirations; to a higher order of intellectual antagonisms; of literary refinements. The *Genius of Liberty* will not be enchained. Surround her, then, with the beautiful, as well as useful, and she will ever pursue the paths of virtue, honor, and truth. If these postulates be correctly assumed, the deduction follows, that a new era in our government must be inaugurated, or it is destined ere long to sink in despotism! Moral or physical force has ever ruled, and ever will rule mankind. Deeply impressed with the importance of declaring these trite but solemn truths, I cast them now, as my mite, into the great national *caldron* of PUBLIC OPINION.

#### OF THE PUBLIC GROUNDS.

In the next place I will proceed to consider the extent, localities, and connections of the grounds, necessary to accomplish all the objects desired, including drainage. To attain these objects I propose four grand divisions: The central surrounds the Capitol, and the other three connect therewith; so that from its *porticos* and *corridors* the whole and every part of the four sections will be in view, and never liable to obstruction from intervening objects. The second section joins on the *north*; the third, on the *west*; and the fourth, on the *south*.

#### SECTION ONE,

Has the Capitol of the United States for a stand-point, commanding the finest prospects and most extensive views of the whole city. I pro-

pose for its boundaries 2d street west; C street north, Massachusetts avenue and B street north; 13th street east; B street south, North Carolina avenue and C street south; containing about 310 acres. All streets and avenues bounding the public grounds to be calculated 150 feet wide. The descent on the west front of the Capitol I would have divided into three or more terraces of equal height and grade. The upper terrace to be elliptical, and in conformity with the Capitol extensions. The other terraces to vary in their curves proportionably to their relative distances from the upper terrace and outer boundary — gradually diminishing their height and distance apart, in approach to the highest grade, and said boundary; keeping up the lateral grades full throughout the centre. This section will require but little more grading to develop its beauties; for, as a general principle, an adherence to nature will achieve the picturesque and beautiful in the highest degree. The natural form and position of the surface should dictate boundaries, so far as other surrounding circumstances will permit; and never be subject to arbitrary geometrical lines beyond what *necessity* imposes, and always apparent. And in carrying out the details of a system so complicated, I have endeavored to keep the *utile* ever present before me; and in fixing boundaries I have varied as little as possible from the plan of the city, and never doing so without estimating a full compensation in the general improvement of the health of the city, and in creating sites for charming private residences. Of all geometrical lines, the straight line is most homogeneous with landscape and perspective, as the visual ray cannot be bent; all curvatures in perspective should exhibit a reason — the more abrupt, the more manifest.

## SECTION TWO,

Is bounded on the *south* by C street north; on the *west* by New Jersey avenue and 3d street west, to the intersection of P street north; on the *north-west* by a new street from 3d and P to North Boundary street, at the intersection of North Capitol street; on the *north* by Boundary Street to the east side of 3d street east; on the *east* by a straight line thence to C street north, at the intersection of the east side of 2d street east — containing about 380 acres. I propose to divide this section between an Arboretum, a Botanic garden, and sufficient ground set apart for a new Presidential mansion. Here, a little to the west of north, and about a mile from the Capitol, is a ridge, overlooking all objects ever likely to be interposed between them, and offering the best site for such a mansion within the limits of the city. It is near the intersection of two fine avenues — New York and New Jersey; the first leading to the present mansion of the President, and the last to the Capitol. It commands a view, in front, down the Potomac to Fort Washington; and, in the rear, of an interesting and picturesque part of the adjacent country. The present mansion might be used by the Department of the Interior, and the edifices occupied by the War and Navy Departments, appropriated to its Land and Pension Bureaus. Then, near the north-east and south-east angles of *section one*, at 5th street east, I would erect suitable edifices for these departments, and attach the grounds of their present enclosure, and of the President's house, Treasury and State Departments,

to *section three*. But as I would not wander out of the proper sphere, with a bow apologetic to your able architect, and magic Meigs, "*revelons a nos nouvons*."

All of *section two* north of, say L street, I propose to divide between a new Presidential mansion and a botanic garden. The connection will contribute to the perfection of both, combining economy with convenience. This locality possesses all the natural capabilities of a botanic garden, to wit: *space*, for its necessary extent; *situation*, in reference to surrounding objects; *variety*, as to surface, soil, and aspect; *water*, from internal living springs; and *approach*, from the south. The ridge, which, near its western termination, furnishes the building site, juts out to the east a bold promontory, yet not so far as to isolate any portion of the valley injuriously, but adding variety of aspect and local temperature. This ridge should be sloped off to a flat grade on the south side, and its east, northeast, and north declivities, terraced for the culture of exotics that cannot withstand the full glare of our summer sun and dry atmosphere. The little valley, immediately north of the ridge, is sheltered from the north-west, north, and north-east winds; a *desideratum* that can only be appreciated fully by those who have gained knowledge from long practical experience. Here there is to be obtained from the hand of nature nearly every pre-requisite of a *botanic garden*.

The remainder of section two I propose for the arboretum; and the grounds here allotted are better adapted to the purpose than any other, to the same extent, in the whole city. But, unfortunately, the railroad passes through it, which, if not to be banished from the city altogether, should be removed from its present position. I therefore recommend bringing it into the city (if it must come,) a little to the east of its present entrance, and keeping along to the east and south of the present track, to the east boundary of *section two*, between E and F streets. From this point an easy ascent exists, through a gorge, up the hill to C street. This arrangement would place the depot only two-and-a-half squares further to the east than its present position. To retain it as it is will greatly injure the arboretum in a very important part of it, as the road will require to be fenced off to itself; and H street, which must be kept open, would have to be taken out of its direct course through the grounds to pass it over the railroad, on a bridge, at the *deep cut*. All the streets and avenues that are to be kept open through the public grounds, should, also, be fenced off with opposite gates, both for carriages and equestrians, placed near enough for one lodge and one keeper to serve for each crossing.

### SECTION THREE

Is bounded on the *south* by Maryland avenue and B street south; on the *west* by the Potomac river; on the *north* by F street north to 17th west, and by said street to Pennsylvania avenue; thence to 15th street; by said street to B street north; thence by said street and Missouri avenue to 2d street west, and thence to the beginning. The whole area, following the river boundary as it now is, and deducting the ground occupied by buildings, and the streets to remain open, is about 388 acres. That portion of this section called the *Mall* to be divided by three streets into

four unequal parts; the first, extending only from 2d to  $4\frac{1}{2}$  street west, is unoccupied, irregular in form, and insignificant, except as the connecting link to *section one*; the second part, lying between  $4\frac{1}{2}$  and 7th streets, contains the Armory; the third from 7th to 12th, the Smithsonian Institute; and the fourth part, from 12th street to the river, contains the Washington Monument. All other streets passing through the Mall to be discontinued.

But I beg leave to propose still another very considerable addition to this section, to be reclaimed from the river, by carrying out an improvement to the navigation of the Potomac, of the first importance to the City of Washington, as reported by A. L. Rives, Esq., civil engineer, to the Department of the Interior, in the autumn of 1856, to which I refer. This improvement consists in establishing a uniform curve to the river front, concave to the channel, from say 23d street west down to the Arsenal point; throwing all the water into the curve, by extending a breakwater wall from the foot of Mason's island across the Virginia channel, with a curve and length sufficient to force the whole volume of water into the opposite curve forming the shore-line of the city; whence it would continue throughout the whole length of the curve to the Arsenal point. For it is a law in hydrology that currents must follow curves, impinging upon the outer verge or shore-line with intensity proportionate to the length of the cord of the arc, not to exceed  $120^\circ$ , or the third part of a circle. This law is verified by all alluvial water-courses; and Mr. Rives, in allusion to this principle, (p. 4,) says: "It is well known that currents, in curves, form stable deep channels. And again, on the same page, speaking of the action of a current, he says, "It followed its curved outline with willing mathematical precision." This *precision* can only be disturbed by abrasions, and only so far as they change the outline or verge of the shore. Here then these divided waters, which prove insufficient for the navigation of two channels, are all thrown into one upon the confines of the city, throughout the whole river front, with an addition of territory, computed by the engineer to contain 166 acres, which will round off the shore-line to correspond with the rest of the curve below it. Permit me further to observe in this place, that the whole of this tract, and much more adjoining it, is nearly filled up to low-water mark, with almost daily accretions, which tends continually to diminish the water upon the shore of the city; but its permanent emergence, so far as may be desired, above that level, must depend upon the extraneous means pointed out. And it is my opinion that this concentration of the water would create a sufficient force of current to sweep out a channel to the extent of its volume, without the aid of dredging, as the engineer has suggested.

#### SECTION FOUR

Is bounded on the *east* by 1st street east and New Jersey avenue; on the *south* by the Eastern Branch; on the *west* by the Arsenal water-wall along James creek; thence in a straight line to the southeast corner of 2d street west and Virginia avenue; thence by the *west* side of 2d street to *section one*, and thence to the beginning. The area contains about 420 acres. Virginia avenue is to be kept open, and all of this section between it and the Eastern Branch I propose for the Zoological Gardens. The

Eastern Branch affords deep, clear water for a *Piscatorium*, and James creek furnishes the other water required. This and section three should be planted in park style, in conformity with local objects and perspective views. The acclivities which lead up into *section one*, I would appropriate to the tender coniferæ, magnolias, rhododendrons, &c.; displaying the choicest specimens over section one, so far as they can be protected by the hardier northern pines, spruces, and firs, which should occupy the whole range of irregular declivity bordering upon section one to the north, and sloping down more or less abruptly into *section two*. This arrangement places the rarest of the *half-hardy* trees and shrubs upon the beautiful *plateau* which lies to the east of the Capitol and immediately north and south of it, and could not fail to enhance the beauty and interest of all its surroundings. It is not the purpose, however, of this essay to enter into the details of ornamental planting, where so many styles would have to be consulted in the attainment of such a vast variety of objects. Besides, did the occasion otherwise permit, without the designated grounds, such a labor would be supererogatory.

#### OF A NEW PRESIDENTIAL MANSION.

Of the *site*, I have said enough already, as in my opinion it will bespeak its own praise to every intelligent beholder. But the present Mansion, aside from its unhealthy position as a *residence* during the latter part of summer and the early autumn, and which must ever continue while the Potomac remains subject to tides and alluvial deposits, it has become too small for the objects of its creation. It must therefore be greatly enlarged, or another constructed. But I am opposed to its situation also. From the position of Departments and places of public business, it stands in the midst of a great thoroughfare, where, during the hours of business, a constant stream of anxious humanity is ever hurrying to and fro, with package in hand—not of *encomiastics*, announcing pre-eminence of “integrity and ability,” designed to travel no further; but that pass on, *through the same portico*, to quite a different class of *pigeon-holes*! The President should be removed from such a *melange*. He can no longer, if he would, perform the business details of his high office; and you have provided for him subordinates sufficient for all such purposes. Why then should he not be relieved from its petty annoyances, especially those not intended for him? I cannot look upon this abuse of the “White House” but as a great desecration. The President of the United States, whom we select from our midst to occupy for a season the most exalted station among men, is entitled to the respect due his high position; and we, as his fellow-citizens, fail in a proper regard for ourselves by every derogation from it.

The house might be fitted up for, say, the Department of the Interior, without undergoing any external alteration, which should never be made to the injury of its present symmetry and beauty. I am most decidedly opposed to all *patching*, particularly architectural; and, besides, are we not forbidden “to put new cloth upon an old garment?” If a building possesses architectural beauty, it is more or less as a whole; and it would be difficult, if not impossible, to alter its proportions, or to enlarge or diminish it, and retain the purity, the *oneness*, which belonged to the origi-

nal. And in my judgment this criticism may be applied to the Capitol extensions, upon which, permit me to remark, *en passant*, that the great extent of the wings renders the central part too small and low for them; and the immensity of the *cupola*, instead of giving relief, will add to its *squat* appearance. The centre building should be enlarged on the east side, proportionate to the size and *position* of the wings, and raised at least *thirty feet* higher. Then the cupola, crowning the centre, would give to the whole a much more symmetrical appearance, and somewhat typical of the "Bird of Jove," poised upon his perch, with expanding pinion, about to swoop upon the foe! But as it *is to be*, I fear the resemblance will be much stronger of a great Muscovy duck, threatening battle with his smaller companions of the poultry yard.

A country seat for the President, I understand, has been suggested. But I cannot imagine any satisfactory reason for such an establishment, though somewhat skilled in *castle-building*; and in my opinion such a *castle* had better be "in the air" outright than out of Washington, and about as likely to be occupied by that dignitary. The idea to me is preposterous. A Presidential Mansion *in the city* is necessary for the accommodation of officials and citizens having business with the President. But in the recess of the Congress, while the dog-star reigns, and *absenteeism* is the order of the day at the Seat of Government, the President may feel as disinclined to solitude as other people; or *possibly* he may have a home of his own—a *Wheatland* or villa somewhere in the confines of the nation—that he might wish to visit occasionally, to look after his own private affairs. What is the use, then, of a country house here? A Presidential Mansion should be in all respects commensurate with the office and nation; and such an edifice placed where I have pointed out will be alike convenient to Congress and the Cabinet, and at the same time free from the noise and dust of the great public thoroughfares; while its grounds, being united with a great Botanic Garden and Arboretum, will increase their effect, and add greatly to the interest of the whole.

The United States Observatory is also in a very unhealthy locality, owing to its contiguity to the river and the necessity for night labor. The space between it and the river bank (which is here quite abrupt) is insufficient to admit a belt of foliage broad enough to absorb the *miasma* that condenses in the night-time of warm seasons, and floats upon it. Besides, the greatest protection being needed on the south, or river side, where the lowest range of *horizon* is required, renders the interposition of trees inadmissible. These objections to its present situation being difficult if not impossible to overcome, I propose to have it removed to a more eligible site, say Meridian Hill, which is among the highest eminences overlooking the city; has a good astronomical horizon; and will be rendered perfectly healthy by my system of drainage, as no unhealthy exhalations can afterwards transpire in its vicinity. The present superstructure is also already become too small for its purposes. Its grounds would be included within the Park I propose to plant between F street and the river, which would have sufficient breadth to secure the inhabitants along that street from the *miasmata* of the river—making it a most desirable street for residences, on account of its being on a ridge sloping gently to the north and south.

In the next place, I propose to have the Jail removed somewhere upon the confines of the city, for the double purpose of taking it from the centre of population and of converting the vacant ground north of the Infirmary into a Market, and do away with the Centre or *Marsh* Market altogether. These measures would abate two nuisances—the one annoying a respectable neighborhood with disgraceful sights and sounds, and the other marring the beauty of the most populous avenue, and adding filth daily to the pestiferous canal. The space proposed is now traversed by a large sewer from the northwest to the southeast corner, and thence falls into the Tiber, near the intersection of C street north and 2d street west, leaving ample capacity and fall for thorough drainage. This place descends inward, diagonally, with the drainage of the sewer, which gives it a peculiar fitness for market purposes; and is quite central—being between 4th and 5th streets west, and E and G streets north. Few inhabitants would be incommoded more than others would be benefitted by the change, even at the present time, and they are Islanders of the Seventh Ward, who should have a market of their own, south of the Mall.

Near the eastern termination of *section one*, at the intersection of East Capitol street with 12th street east, I propose to place Mills's forthcoming equestrian statue of George Washington. Its position there will be central, also, on Massachusetts, North Carolina, Kentucky, and Tennessee avenues, and on elevated commanding ground. The vistas from this statue along all these streets and avenues should never be obstructed, making this magnificent monument crown the *east*, as the other to Washington will the *west*, like the fame of the Father of his Country, never to be obscured from the gaze of an admiring world.

I entertain no doubt that all the ground I have delineated will ultimately be required for the public necessities. It amounts to much less than is allotted to any other great metropolis in christendom. I would not, therefore, bate an inch of it even after the 166 acres is reclaimed from the water, as we then shall not exceed in the grand total, *seventeen hundred acres*.

And now, gentlemen of Congress, having reached my utmost expansion, I shall leave it with you to decide if the frog's fate in the fable is to be typical of mine. But before you proceed to the consideration of a subject of such grave importance, "I rise to a privileged question," for the purpose of making a personal explanation. And I am the freer to take advantage of your "parliamentary rules," because I neither ask, expect to receive, or have received, anything for all this labor *but my pains*. They, however, have visited me like a *tertian* for years with periodical paroxysms until the magnificence of your edifices has brought on an exacerbation that has terminated in an uncontrollable *cacoëthes scribendi*. Yes, *Mr. Speaker!* residing near the city of Washington for more than twenty years, (but without ever owning property in it,) I have been watching the progress of events that should some day crown Washington with a metropolitan grandeur equal to the greatest country, if not the greatest people on earth. But in the more lucid intermissions of the fever I have said to myself, the time is not yet, the plan of the city is too vast for the wealth and number of its inhabitants; the government is poor, in debt, or engaged in war, and the vastness of the plans that ever obtruded themselves would enchain me to silence. And even now the attempt to describe them awakens fears as abject almost as those which

caused the renowned Galileo to forswear himself. But I think I see the time approaching when a nation's dignity and a people's taste shall move hand in hand to produce a federal metropolis worthy the name of the *Pater Patriæ*. Yet if I, too, prove "ahead of the times," then must I also exclaim "*E pur si muove!*" "for such is the Law and the Prophets." I cannot believe that our love of country can remain satisfied much longer with such a comparative mediocrity, more especially while the door stands so invitingly open as it does here for these great improvements, giving us the opportunity at once to lead in these as in other achievements, instead of following in the wake of other nations. Energies equal to any undertaking are spontaneous in the American people, productive of a pride properly directed that cannot fail to lead to noble enterprises, and therefore they should be cherished and sustained by the legislator and philanthropist.

#### OF DRAINAGE.

Drainage is a prerequisite to the health of a city, and preliminary to grading, building, and planting. As this kind of work is generally carried on no faster than the public necessities require, any fixed principle or plan of construction is too easily lost sight of, and their perfection marred through mistaken economy, ignorance, or sinister design. It is, therefore, of the first importance that a complete system of grade and drainage for the city of Washington should be established by law, to be carried out as a permanent measure without deviation, as the other improvements, founded and dependent upon them, might require, and always in advance of them.

The greatest difficulty to be encountered in the drainage of the city, will be found between 23d and 2d streets west; and between, say A street south, at 2d street west, and the mouth of James creek, which is the natural outlet of all the drainage that now flows into the canal.

The fall from 23d to 2d street is only about one foot, and thence to the mouth of James creek is scant three feet, the distances being each about one mile and three-quarters. But above the average of the tides, there is not over sixteen inches fall throughout the whole extent. I propose, then, to start from a point on the bank of the river where the surface is five feet above high tide mark, with a true grade thence to the surface at 2d street west; following down the south side of B street north to Missouri avenue, and thence in a line therewith to 2d street. Then fill up with earth from adjacent acclivities the 166 acres obtained from the river; the President's park, so called, and all contiguous ground to the aforesaid grade, effacing the canal altogether. Then I would construct a sewer as the main drain from 23d street, along said line of grade throughout, to 2d street; to be six feet wide to 10th street, gradually widening to twelve feet on reaching 6th street, and then continue of that width, and to be seven feet deep throughout. To have a flat bottom flagged with stone, and covered with stone slabs, except at the crossing of streets and carriage ways, requiring arches to be laid even with the surface on substantial side walls of stone. This form gives greater capacity nearer the surface than the arch, and admits of being opened at any point needful. I would establish running water through it by bringing it from Rock Creek through an iron pipe three feet in diameter, into the head of the sewer, with a gate at their junction, whereby this supply may be shut off in times of flood. This water will be required to keep the



sewer free on account of its flat bottom and low grade, and in my judgment will leave capacity sufficient for the drainage into it.

The present canal, with its zigzag ambidextrous angles, passing through a dead level in the very heart of the city, and without expressing any satisfactory motive for doing so, is a receptacle for dead dogs, cats, rats, and such ilk *infusoria*, and unquestionably the greatest nuisance in the city, and should be expunged—the sooner the better. I propose a canal in its stead from the mouth of James creek to Virginia avenue, along the west boundary of the zoological park, with a basin at its heads suited to its commerce, and with the drainage from the west, united with that from the Tiber range, flowing into it.

The water course called Tiber creek drains the greater part of the city north of the capitol extending from 14th street west to 9th street east, and some six square miles of territory north of the city. This extensive water shed from numerous precipitous hills, occasions overflow once or twice a year, and sometimes oftener, through the low level I have just been treating of, when more or less damage to health and property ensue. This greatest natural difficulty I propose not only to overcome, but convert into blessings by turning jagged banks, naked gravel pits, and shapeless pools, into purling streams, joyous cascades, instructive ponds, and charming lakes. All this and much more may be accomplished by diverting this little stream into the various uses of a botanic garden and arboretum, with some additional aid from the water-works. Ponds, cascades, and rivulets are essential to botanic gardens. Some facilitate and others retard the progress of water, and all with calculated quantities by the use of dams, dykes, levies, culverts, &c., &c., with waste channels to accelerate all superabundance, whereby durations also are calculated. The water is thus conducted into the arboretum, to be converted into a lake, the south boundary of which should be probably a little north of I street north. Here I would construct a dyke across the valley broad enough to admit of carriage and equestrian ways, and walks for pedestrians to pass over it, with intermediate trees and shrubs, and with a culvert through it that could not pass water enough with the accumulations below it to produce overflow. The culvert to be so arranged as to retain say four feet of water in the lake, or drain it if desired; and then, say at two-thirds of the height of this culvert, I would start a drain from the lake on the east side immediately above the dyke, of sufficient capacity to contain all the surplus water. This drain should be taken to G street north, along that street to the eastern boundary of the city, and thence to the Eastern branch, receiving the intermediate sewerage into it. The drainage of the remaining part of the city east sheds off into the Eastern branch without presenting any difficulty worthy of notice.

From 14th street west, at U street north, I propose to run a main sewer in a straight line to 3d street west, at or near P street north, where it enters the botanic garden. Again, from 14th, at U, I propose to run another main trunk in a south westerly direction to Rock creek. These last three main trunks should be built circular, with a diameter not less than six feet, with traps at the crossings of streets for inspecting and cleansing them.

The sewerage of a city should underlie water and gas mains, and conform with grades throughout. The main receiving trunks or conduits should be still lower, and pass through the lowest lines irrespective of streets and below foundation walls; consequently, they should be con-

constructed in advance of buildings. The only exception to this plan of construction in Washington city will be in conveying the water from the lower part of *section two*. It must flow into the arch under New Jersey avenue. This arch, then, should be continuous by way of the arch across Pennsylvania avenue, and thence along the center of 2d street to the basin of the new canal, to terminate with tide gates for the purpose of shutting out the counter currents from the lower portions of both conduits, the accumulation of water in them from above always finding vent by opening the gates with its superior pressure, before damage could ensue from overflow.

The great difficulty in the way of a complete system of drainage for Washington consists in disposing of the superabundance of water that at times rushes into the valley of Tiber creek. It becomes necessary, then, to ascertain the quantity of water at its *maximum* and time of *duration*, before the *dimension* of conduits for *detention* or *acceleration* can be calculated with certainty. The *data* for such calculations, however scientific and abstruse, are attainable. A triangulation and topographical survey of the whole District of Columbia, with maps and profile drawings of every street and avenue of the city of Washington, were completed last March, and I have been permitted to use some of the data for my own calculations. It is a private enterprise, but I have authority from your Coast Survey Office to say that the accuracy of the work may be relied on. By the aid of this work every foot of surface within the city and without, that drains through it; every summit, descent, and distance can be calculated to a fraction; and after a sufficient series of observations with a rain-gauge, the exact measure of aqueducts may be arrived at for all the various purposes required.

#### HOW THE FOREGOING OBJECTS ARE TO BE ACCOMPLISHED.

It will become necessary to look into the history of the city of Washington more in detail, before we can arrive at a thorough knowledge of the present powers of Congress, and to what extent these powers should be exerted in accomplishing such a system of improvements.

In the year 1791 the United States purchased the site of the city of Washington from the owners of the soil. The original agreement provides that they should surrender their title in fee to the whole area of the city, amounting to 7,134 acres of land—the government to return to them one moiety of the building lots, amounting only to 1,508 acres; that the United States were to pay nothing for reservations and property in the streets and avenues, amounting to 4,118 acres; and it is said that they actually paid the proprietors for only 541 acres and a fraction, at the rate of \$66 $\frac{2}{3}$  per acre, amounting to a trifle over \$36,000. But even this inconsiderable sum was not taken, it seems, from the people's money, for Virginia advanced the government \$120,000, and Maryland \$72,000 as, probably, an inducement to establish the seat of government here; for the constitution of the United States itself declares that "the Congress shall have power to exercise exclusive legislation in all cases whatsoever, over such District (not exceeding ten miles square) as may, by cession of particular States, and the acceptance of Congress, become the Seat of the Government of the United States." A *district by cession of particular States*, point not only to the place selected, but to the Pater Patriæ who presided over the convention, as the originator as well as founder of

the "Federal City;" while the sagacious men who composed that convention saw the necessity of granting to the Congress the power of *exclusive* legislation in *all cases whatsoever* over the *whole* district in which the city was to be created, to preclude the possibility of there ever being a *conflict of jurisdiction*. The power of Congress in this, as in every other case, cannot extend beyond the grant expressed in the fundamental law, whence all its powers, its very existence, emanate. In other words, Congress is but an agency, created by a written special power of attorney; and so far as the agent departs from the expressed powers granted therein, his acts are void *ab initio*, and without validity. Now the people of the United States constitute the principal who executed the instrument, (which, as to the powers of Congress, contains no clause of substitution;) and the Federal City belonging to them, its inhabitants are but their *stewards*, subject to their will, through the Congress, who can only *represent that will*. And such I deem the true doctrine, that lies at the foundation of a *representative* DEMOCRACY. But enough! I am aware that it is quite supererogant to argue such points to your honorable bodies; still the anomalous character of Washington as the seat of such a government, and the language made use of in that greatest of all charters upon which the whole government is constructed, and could not exist without for a moment; the conflicts of jurisdiction that have evidently occurred, as I shall attempt to show; the confusion and dissatisfaction apparent in the community composed of its citizens—point in my judgment to the propriety and practicability, also, of a rescision of its charter altogether, as the most certain remedy for all the existing and growing evils.

I will now proceed to review some of the leading occurrences, which in my opinion create the necessity of adopting the course recommended.

The plan of the city was evidently designed to be what it has already become, the capital of a great nation, but from its very dimensions oppressive to the inhabitants, if its improvements are to be thrown upon them. Besides the United States not only obtained this large domain for nothing, but was paid greatly beyond its intrinsic value for taking it; yet to this day, with millions of dollars worth of property upon it, they have contributed nothing by way of taxation for the support of their own city, while I am informed that they do pay taxes on their property at other points, and the money applied to the ordinary purposes of the places where the property is situated. The government has established its title by having exercised ownership over the streets and avenues, in closing them and selling the ground that formed them; it has changed their position in other instances, and of the canal, and retained the lots of ground opened thereby; and the Supreme Court has sustained its authority in so doing—all of which clearly establishes the *title in fee* in the United States. Sen. Doc. 97, 2d Sess. 23d Cong., 4 Peters R. 232.

I will not trouble you with matters of mere debit and credit, that have been accumulating between the government and city ever since it was incorporated, and now quite voluminous; as my object is not to censure or exculpate either party, but simply to lay before you some of the more important leading facts and occurrences, best calculated, in my judgment, to show the working of the machinery of government as administered upon the corporation, that you may be able the better to judge, whether this great Metropolis, as well as the true interests of the nation, do not im-

periously demand some change, or modification, at least, in the relations as they now exist between these *politic* and *corporate* jurisdictions.

In a statement made to Congress, in January, 1848, by a select committee of the corporate authorities of Washington, with the Mayor of the city at its head, among a long array of grievances set up against the government in not bearing its just proportion of the expense in opening, extending, and repairing streets and avenues; supporting schools for the education of poor children, &c., &c.; it is asserted that the government was obligated to expend the proceeds of the sales of its building-lots in improving the streets and avenues, and that \$800,000 had then been paid into the treasury of the United States on account of such sales; that it had given away \$70,000 worth to charitable and literary institutions, and that a considerable number of lots still remained unsold. These important facts, with many others of minor consequence, stated by the committee, appears to have led to a revision of the charter, which was approved May 17, 1848 — in the 12th section of which it is “enacted, that the Commissioner of Public Buildings, or other officer having charge and authority over the lands and property of the United States, lying within the city of Washington, shall from time to time cause to be opened and improved such avenues and streets, or parts or portions thereof, as the President of the United States, upon application of the corporation of said city, shall deem necessary for the public convenience, and direct to be done; and he shall defray the expenses thereof out of any money arising, or which shall have arisen, from the sale of lots in the city of Washington, belonging, or which may have belonged, to the United States, and from no other fund.” Then follows a similar provision in respect to making repairs; and the last section contains a repealing clause, whereby there can be no law, prior to that date, in conflict with it.—9 Stat. at Large, 228, *et seq.*

Here, then, some eleven years ago, a fund amounting to \$870,000 was designed by law for opening and repairing streets and avenues, not one dollar of which can I find to have been used for such a purpose, but merely the amount of the subsequent sales of lots. Listen to what your Commissioner of the Public Buildings said, in his report of last year to the Department of the Interior on the subject: “The improvements provided for in section 15 of the city charter, approved May 15, 1820, and section 12 of the amended charter, approved May 17, 1848, are indispensable, and as the source from which the means to pay for them were to flow has dried up, it strikes me that there is no other alternative but for the government to make a small annual appropriation for the purpose.”—Page 11. On page 10, he said: “The city has taken upon itself to open and grade the streets under the authority given to it by the government, but is unwilling to do anything to the avenues.” “This unwillingness proceeds from a want of ample means, and a strong conviction that the government is bound in justice, as its share, to construct the avenues.” Hear, also, what the Secretary himself says in his Report to the President of last year. His remarks on the subject are chiefly on page 13. I will quote but one paragraph: “In conferring these powers upon the corporation, [those referred to by the Commissioner] Congress must have acted on the conviction that it was the duty of the city, and not of the general government, to open and repair streets and avenues, as well as to make the other improvements indicated.”

quantum of exercise, the many points of ingress and egress leave distance and direction quite optional. The walks for pedestrians necessarily lead to closer views of objects and localities.

You may, perhaps, be told that the broad avenues and streets of the city of Washington, with their small squares, circles, and triangles, that mark their intersections, skirted with trees, were intended for pleasure drives, and ample for such a purpose; while, in my view, instead of being drives of pleasure, they are but drives to pleasure and the avenues of business. Who will look for pleasure amid squealing swine and cackling geese, of oyster horns and squalling children? But, says the advocate, all this will be expelled from the streets whenever the increase of population shall demand it. Very well; but in their place you will have the increased bustle, noise, dust, and turmoil of a crowded city. And though the lean, lank trees that fringe the streets are useful as screens to houses along them from the intensity of the summer heat, and to shade also the glowing pavements, still they are but meager specimens compared with those planted with the view to a perfect development, and with every means provided to that end.

#### CONCLUSION.

If the improvements I have so poorly described, or any like them, are ever to take place, means should be adopted at once to secure all the ground that will be required. A system consisting of so many parts, like beauty in architecture, must depend on symmetrical proportion for effect as a whole. If, therefore, the plan be carried on by piecemeal, from year to year, as has been suggested, the charms of maturity will be sure to be lost in heterogeneous combinations. The first step, then, will be to cancel the private titles within the prescribed limits, and the sooner the better for all concerned; for many might delay improvements, while others see their interest in forcing them forward, in anticipation of the demand, and the price of all be enhanced by the public expectation. This step, if promptly taken, would save an immense sum of money to the government and enhance the value of property more equally and extensively over the city than will ever be effected in any other way: breaking down the local *west end* or *east end* influences that are as sure to exist as individual wealth is prone to such investments. The ordinary rise of property, also, will probably exceed for years to come the rate of interest, should the government have to borrow the whole amount. And that amount will not appear so formidable, after deducting the reservations, streets, and avenues, included in the grounds; for but little of the remainder is built upon, and still less in its present condition would ever justify building expensively. Governments are perpetual; time, therefore, as to them, is to be considered as only commensurate with great national undertakings.

The object of the foregoing essay is not so much to carry out my views as to offer them to the public scrutiny, for the purpose of agitating the public mind in favor of improvements that shall make our metropolis as far transcend as it now sinks below all parallel, and to urge the necessity of immediate action; for whatever it may be, "twere well it were done quickly." I therefore close in the words of Horace:

Si quid novisti rectius istis  
Candidus imperti, si non his utere mecum.

JAN 16 1919